REMARKS

The claims in the application are 1-20 and 27.

Favorable reconsideration of the application as amended is respectfully requested.

Claim 1 has been amended to incorporate recitation from Claim 28 which has been canceled without prejudice. A marked up copy of the Amendment to Claim 1 is attached.

Claim 28 has been rejected under 35 U.S.C. §103 as obvious over U.S. Pat. No. 4,318,950 to Takashi et al. in view of European Patent No. 0 613 919 to Ueda et al. and U.S. Pat. No. 5,233,924 to Ohba et al. The present amendment is being made in accordance with a telephone conference between the Examiner in charge of the above-identified application and the undersigned attorney on August 28, 2000; the courtesy extended by the Examiner in arranging for and conducting the telephone interview, is greatly appreciated.

In light of the discussions during the telephone interview, a Supplemental Declaration by joint inventor Masaaki Yamanaka is being forwarded for execution and will be expeditiously submitted to the Patent and Trademark Office upon receipt. In this regard, a draft of this supplemental Declaration is enclosed and will be addressed.

A copy of the test results evaluated in Table 3 of the previous Declaration executed by Mr. Yamanaka is enclosed on which the evaluations have been changed from "fair" and "poor" to the symbols Δ and X, to eliminate any misunderstanding. Regarding the Examiner's comment about Comparative Examples 2 and 3 in Table 2 on page 38 of the present application, namely that the papers must be subjected to the same surface treatment to compare effective stretching, additional comparative testing has been set forth in the accompanying Declaration to be executed by Mr. Yamanaka.

More particularly, Experimentation I was conducted in the same manner as in Comparative Example 2 at page 38 of the present application, with the exception that corona discharge treatment was carried out as surface treatment. Experimentation 2 set forth in the accompanying supplemental Declaration was conducted in the same manner as in Comparative Example 3 as in the present application, with the difference being that surface treatment (corona discharge treatment) was not carried out. The results are presented in Tables 1 and 2 in the accompanying Supplemental Declaration.

As can be seen from Table 2 in the accompanying supplemental Declaration, the surface resistivity remain identical for Experimentation 1/ Comparative Example 2 and Experimentation 2/ Comparative Example 3. Resulting gloss and opaqueness also remain identical for these respective comparisons as noted in the Supplemental Declaration. In Experimentation I, ink adhesion improved from X to Δ because the corona discharge

treatment was carried out, however in Experimentation 2 the ink adhesion deteriorated from Δ to X because the corona discharge treatment was omitted. Contrary to the assertion in the first full paragraph on page 7 of the Final Office Action, the degree of orientation has not changed between the inventive Examples 6-8 and Comparative Example 2 (please see Table 2 on page 38 on the present application).

It is respectfully reiterated that the printability of Takashi et al. has been documented unsatisfactory in the comparative testing submitted with the previous Declaration. There is a mutual relation between the low surface resistivity and the anti-static properties. When the surface resistivity becomes low, static electricity which collects on the surface of the synthetic paper is decreased to thereby improve the anti-static properties. Printability (offset printability) was evaluated in view of the ink adhesion and the suitability for paper feeding/discharge. The ink adhesion cannot be improved by the low surface resistivity alone.

There are several reasons why the anti-static agent used in the claimed invention is better retained in the paper of the present invention, even after washing. Firstly, because the anti-static agent used in the present invention possesses relatively high molecular weight, the anti-static agent is fixed in the synthetic paper to exhibit permanent anti-static effect, while the low-molecular weight anti-static agent (which is indeed merely a surface active agent) disclosed in Takashi et al., leaches out from the surface of the synthetic paper and is easily washed out from the surface upon washing.

However, in order to increase the compatibility of anti-static agent with polypropylene as a matrix resin of the synthetic resin, a modified low-molecular weight polypropylene is added as a compatiblizer in the claimed invention. Accordingly, the dispersibility of the anti-static agent in polypropylene improves and omission of the anti-static agent from the surface of the synthetic paper decreases.

It is respectfully emphasized that the opaqueness of the synthetic paper of the present invention is limited to 83% or above; in other words, the synthetic paper of the present invention is opaque. According to the working examples of Ueda et al., firstly all the products were obtained by injection molding. Ueda et al. do not disclose or suggest that a sheet obtained by extrusion molding according to the claimed invention was further subjected to stretching treatment to prepare a film. Secondly, the injection molded product according to Ueda et al. does not contain any filler and does not contain any voids therein. Accordingly, the product is transparent or semi-transparent. Ueda et al. teach that the composition may be used with filler as one of additives for the resin. However, Ueda et al. do not specifically disclose the kind of filler. Furthermore, Ueda et al. disclose that a surfactant is preferable as the additive for the resin, with the amount of the surfactant being from 0.01 to 5% by weight, preferably 0.05 to 3% by weight based upon total weight of polyetheresteramide and alkyl metal (page 11, lines 19-24). On the other hand, according to the claims of the present invention, fine inorganic particles are added in an amount of from 10 to 250 parts by weight based on 100 parts by weight of resin components. A large

number of voids are formed in the surface layer of the film during stretching to form an opaque film suitable for writing with pencil (page 19, lines 14-19 of the present application).

Ueda et al. are quite different from the present invention and do not suggest the opaque synthetic paper of the present invention.

Takashi et al. relate to synthetic paper. However, the anti-static agents disclosed in Takashi et al. have low molecular weight. The anti-static agent disclosed in the working example of Takashi et al. is merely a surface active agent. Takashi et al. neither describe nor suggest the high-molecular weight anti-static agent for use in the present invention.

According to column 19, lines 21-22 of Takashi et al., the amount of the anti-static agent to be added is about 0.1 to 1.5% by weight. On the other hand, the amount of the high-molecular weight anti-static agent for use in the present invention is as large as 10 to 250 parts by weight based on the 100 parts by weight of resin components. Takashi et al. are quite different than the present invention.

It is not disclosed in either of these two references and cannot be predicted therefrom that the high-molecular weight anti-static agent used in Ueda et al. can be used in an amount from 10 to 250 parts by weight based on the 100 parts by weight of resin components in place of the low-molecular weight surface active agent used in the synthetic paper of Takashi et al.

Finally, Ohba et al. adds nothing to the teachings of any other reference which would suggest the claimed invention, because the composition disclosed in Ohba et al. is remote to the claimed invention and do not involve surface treatment.

Accordingly, in view of the forgoing amendment, accompanying remarks and Supplemental Declaration draft, it is respectfully submitted that all claims presented herein are in condition for allowance. Should the Examiner have any questions, then it is respectfully requested that the undersigned attorney be contacted at the earliest convenience to discuss the present application.

Early, favorable action is earnestly solicited.

Respectfully submitted,
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1. A synthetic paper which comprises a film obtained by oxidizing the surface of a film obtained by stretching a resin film comprising as the base material a resin composition comprising

100 parts by weight of resin components comprising

component A: a polypropylene resin 55-90 wt%

component B: a polyetheresteramide containing aromatic rings which is derived from

component bl: a polyamide having a number-average molecular weight of from 200 to 5,000 and containing a carboxyl group at each end

component b2: an alkaline oxide adduct of bisphenol having a number-average molecular weight of from 300 to 5,000

5-40 wt%

component C: a polyamide resin 3-20 wt%

and

component D: at least one modified low-molecular weight polypropylene selected from the following components dl to d3

1-20 wt%

component dl: an acid modified low-molecular weight polypropylene having a number-average molecular weight of from 800 to 25,000 and an acid value of from 5 to 150,

component d2: a hydroxy modified low-molecular weight polypropylene having a number-average molecular weight of from 800 to 25,000 and a hydroxyl value of from 5 to 150,

component d3: an ester modified low-molecular weight polypropylene obtained by partly or wholly esterifying component d1 with a polyoxyalkylene compound and having a number-average molecular weight of from 1,000 to 28,000,

the total amount of all resin components being 100 wt%,

and

from 10 to 250 parts by weight of

component E: fine inorganic particles,

said stretching being conducted at a temperature lower than the melting point of the polypropylene resin as component A, said stretching and oxidation of said stretched film generating ultrafine cracks on a surface of said stretched film through which component B as permanent antistatic agent appears and possessing gloss of 60% or below and opaqueness of 83% or above.

1. ~~(Amended)~~ A synthetic paper which comprises a film obtained by oxidizing the surface of a film obtained by stretching a resin film comprising as the base material a resin composition comprising

100 parts by weight of resin components comprising

component A: a polypropylene resin 55-90 wt%

component B: a polyetheresteramide containing aromatic rings which is derived from

component b1: a polyamide having a number-average molecular weight of from 200 to 5,000 and containing a carboxyl group at each end

component b2: an alkaline oxide adduct of bisphenol having a number-average molecular weight of from 300 to 5,000

5-40 wt%

component C: a polyamide resin 3-20 wt%

and

component D: at least one modified low-molecular weight polypropylene selected from the following components d1 to d3

1-20 wt%

component d1: an acid modified low-molecular weight polypropylene having a number-average molecular weight of from 800 to 25,000 and an acid value of from 5 to 150,

component d2: a hydroxy modified low-molecular weight polypropylene having a number-average molecular weight of from 800 to 25,000 and a hydroxyl value of from 5 to 150,

component d3: an ester modified low-molecular weight polypropylene obtained by partly or wholly esterifying component d1 with a polyoxyalkylene compound and having a number-average molecular weight of from 1,000 to 28,000,

the total amount of all resin components being 100 wt%,

and

from 10 to 250 parts by weight of

component E: fine inorganic particles,

said stretching being conducted at a temperature lower than the melting point of the polypropylene resin as component A,

said stretching and oxidation of said stretched film generating ultrafine cracks on a surface of said stretched film through which component B as permanent antistatic agent appears,

AND POSSESSING GLOSS OF 60% OR BELOW AND OPAQUENESS OF 83% OR ABOVE.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s):	Yamanaka et al.	Examiner: Kruer, K.
Serial No.:	08/855,905	Group: Art Unit 1773
Filed:	May 14, 1997	Docket: 443-17
For:	SYNTHETIC PAPER MADE OF STRETCHED POLYPROPYLENE FILM	

Assistant Commissioner for Patents
Washington, D.C. 20231

SUPPLEMENTAL DECLARATION

I, **Masaaki Yamanaka**, do hereby declare:

1. I am the Declarant who executed the previous declaration on October 6, 1999 in the above-identified application;

2. The following additional experimentation was carried out under my supervision and control:

EXPERIMENTATION 1

Experimentation 1 was conducted in the same manner as in Comparative Example 2 in the present application except that corona discharge treatment was carried out as surface treatment.

EXPERIMENTATION 2

Experimentation 2 was conducted in the same manner as in Comparative Example 3 in the present application except that surface treatment (corona discharge treatment) was not carried out.

Table 1

	Final Composition of Surface Layer				Molding, Stretching/Surface Treatment			
	Resins (100 parts)				Thickness (μm)	Stretching of Surface Layer		
	PP	PEEA (B1)	PA	Modified PP (D1)	Front/core/back	Uni- or biaxial Stretching	Stretching Ratio	Surface treatment
Ex. 1	82	10.8	3.6	3.6	20/60/20	Uniaxial	8	Corona
Ex. 2	82	10.8	3.6	3.6	20/60/20	No Stretching		None

Table 2

Evaluation						
	Surface Resistivity (Ω)		Offset Printability		Optical Property	
	(a)	(b)	Ink Adhesion	Suitability for Paper Feeding/Discharge	Gloss (%)	Opaqueness (%)
Ex. 1	$8x10^{11}$	$7x10^{11}$	Δ	O	90	80
Ex. 2	$5x10^{14}$	$5x10^{14}$	X	X	98	60

The symbols in Table 2 denote the following:

△: The ink was peeled almost completely to pose a problem in practical use although the peeling force required was not so weak;

○: the number of stops was 1;

X: All the ink was peeled with very weak peeling force and was incapable of practical use and the number of stops was 6 or greater;

3. A copy of Table 3 from the preceding Declaration is enclosed on which the evaluations have been changed from fair to △ and poor to X to provide consistency with the evaluations presented in the above-identified application and the present supplemental Declaration;

4. Referring to the test results presented herein, in Experimentation 1, the ink adhesion was improved from "X" to "△" because the corona discharge treatment was carried out, but in Experimentation 2, the ink adhesion deteriorated from "△" to"X" because the corona discharge treatment was omitted; and

5. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Date

Masaaki Yamanaka

NYMEEN S-210: produced by NOF Corp.

Table 2

	Final composition of surface layer					Molding/stretching/surface treatment			
	Resins (100 parts)			Fine inorganic particles (E)		Thickness (μm)	Stretching of surface layer		
	PP		Modified PP (D1)	$CaCO_3$	TiO_2	front/core/back	Uni- or biaxial stretching	Stretching ratio	Surface treatment
Ex.1	Blended amount is set forth in Table 1					60/50/60	uniaxial	5	corona
Ex.2	72.3	16.7	5.5	72.7	9.1	20/60/20	uniaxial	8	corona

Table 3

	Evaluation			
	Surface resistivity		Offset printability	
	(a)	(b)	Ink adhesion	Suitability for paper feed/discharge
Ex. 1	6×10^{13}	6×10^{15}	Δ	X
Ex. 2	4×10^{11}	5×10^{15}	Δ	X